Disclaimer: As discussed at the DOSS meeting on 12/18/12, a meeting on 12/26/12 would not be necessary because of the -2,000 cfs delta smelt action response that would continue for 14 days and because there would be no other actions even if another RPA trigger were to be tripped. It was decided that data would be forwarded to the DOSS group; however, barring anything substantial, a DOSS call was not needed for 12/26/12. As indicated below, several DOSS participants got together to discuss fish monitoring and current operations. These notes reflect that meeting.

Delta Operations for Salmonids and Sturgeon (DOSS) Group
Conference call: 12/26/12 at 9:00 a.m.

Objective: Provide advice to the Water Operations Management Team (WOMT) and National Marine Fisheries Service (NMFS) on measures to reduce adverse effects from Delta operations of the Central Valley Project and the State Water Project on salmonids and green sturgeon. DOSS will work with other technical teams. DOSS notes and advice can be found at: http://www.swr.noaa.gov/ocap/doss.htm.

DWR: Edmund Yu, Kevin Reece, Dan Yamanaka, Mike Ford
FWS: Roger Guinee
NMFS: Jeff Stuart
Reclamation: Russ Yaworsky, Josh Israel
DFG: Bob Fujimura
EPA, SWRCB, USGS: not present

Agenda
1. Fish monitoring
2. Current operations

Fish Monitoring: The following table presents fish monitoring data. Unless otherwise noted, reported sizes are fork length. See also: http://www.water.ca.gov/swp/operationscontrol/calfed/calfedmonitoring.cfm.

Location	Chipps Is. Midwater Trawl	Sacramento Trawls	Mossdale Kodiak Trawl	Beach Seines	Knights Landing RST	Tisdale Weir RST
Sample Date	12/17, 19, 21	12/17, 19, 21	12/17, 19, 21	12/17, 19, 21	No sampling since 12/15/12	No sampling since 12/15/12
Total Catch	**422**	**3**	**0**	**265**		
FR		1		140		
WR	1			21		
SR				98		
LFR	4	2		3		
Ad-Clipped Chinook	14			3		
DS	8 (62–80					

	mm; not mature)					
Splittail	91					
Longfin	304 (105 Milt, 153 eggs, 46 no expression (64 -160 mm)					
SH (ad-clip)						
SH (wild)						
W. Temp. (avg. °F)	50.5	48.0	48.7	47.8		
Flows (avg. cfs)						
Turbidity (avg. NTU)	72.6	38.2 (no data on 12/17/12)	9.3	26.6		
WR/LFR Avg. CPUE						
FR/SR Avg. CPUE						

Key: FR = Fall run; LFR = Late-fall run; SR = Spring run; WR = Winter run; SH = Steelhead; DS = Delta smelt; LFS = Longfin smelt; CPUE = catch per unit of effort; N/A = not available

Fish Monitoring: A winter-run-sized Chinook salmon (95 mm) was recovered in the Chipps Island trawl on 12/21/12. It was noted that a large number of splittail and longfin smelt were collected this past week in the Chipps Island trawls. Discussion ensued as to whether the splittail were juveniles or adults staging to move upriver. Based on sizes of the fish given, it was believed that these fish were juveniles or subadults.

Fish Salvage: The fish salvage report covering 12/17–12/23/12 was provided by Geir Aasen (DFG) and emailed to DOSS participants. This report is posted at ftp://ftp.delta.dfg.ca.gov/salvage and you can locate the table under folder "DOSS salvage tables" (also try http://www.dfg.ca.gov/delta/apps/salvage/Default.aspx) and click on "salvage FTP site").

The following daily summary graphs and table were prepared by Bob Fujimura (DFG).

Complied by Bob Fujimura on December 25, 2012

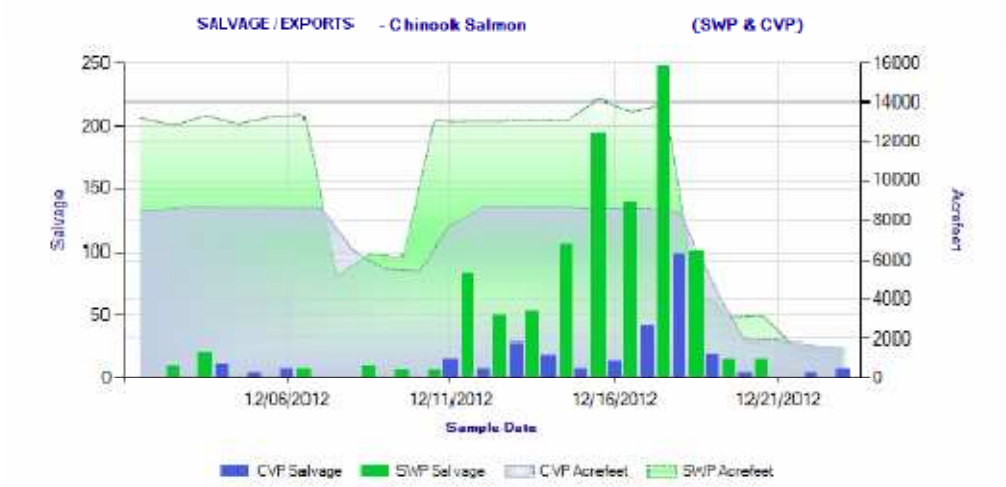


Figure 1. Daily salvage of Chinook salmon (all races) and water exports from the state and federal fish salvage facilities during December 3 through 23, 2012. Graph obtained from the DFG salvage monitoring web-page: http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx.

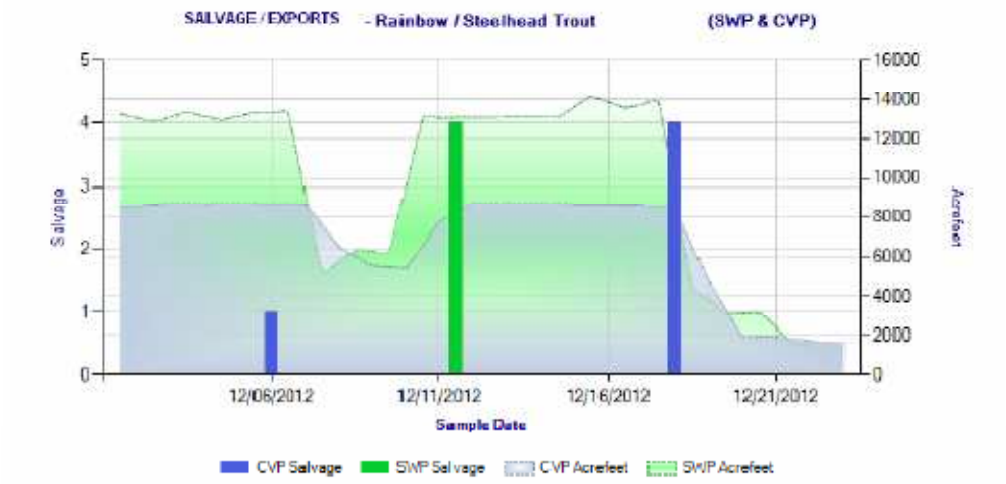


Figure 2. Daily salvage of steelhead and water exports from the state and federal fish salvage facilities during December 3 through 23, 2012. Graph obtained from the DFG salvage monitoring web-page: http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx

DOSS Weekly Salvage Update
Reporting Period: Dec 17-23, 2012
Prepared by Bob Fujimura on December 25, 2012
Preliminary Results -Subject to Revision

Criteria	17-Dec	18-Dec	19-Dec	20-Dec	21-Dec	22-Dec	23-Dec	Trend
Loss Densities								
Wild older juvenile CS	1.2	**5.5**	7.1	0.0	0.0	0.0	0.0	
Wild steelhead	0.0	0.1	0.0	0.0	0.0	0.0	0.0	
Exports								
SWP daily export	13,570	13,832	4,543	3,144	3,176	1,620	1,447	
CVP daily export	8,642	8,392	4,737	1,949	1,954	1,728	1,621	

= exceeded 95 fish/day trigger

Loss Density = fish lost/TAF; water export = AF; Trend = compared to previous week; wild = adipose fin present

Chinook Salmon Weekly/Season Salvage and Loss
Combined salvage and loss for both CVP and SWP fish facilities
Race determined by size at date of capture; hatchery = adipose fin missing;

		Weekly Total			Season Total	
Category		**Salvage**	**Loss**	**Trend**	**Salvage**	**Loss**
Wild						
	Winter Run	42	144	↗	70	239
	Spring Run	0	0	→	0	0
	Late Fall Run	30	67	↘	81	258
	Fall Run	4	3	↘	19	52
	Unclassified	0	0	→	8	5
	Total	**76**	**214**		**178**	**554**
Hatchery						
	Winter Run	36	125	→	61	236
	Spring Run	0	0	→	0	0
	Late Fall Run	386	1,405	↗	727	2,736
	Fall Run	203	769	→	407	1,515
	Unclassified	0	0	→	0	0
	Total	**625**	**2,299**		**1,195**	**4,487**

Trend = weekly loss per race

Steelhead Weekly/Season Salvage and Loss
Combined salvage and loss for both CVP and SWP fish facilities

	Weekly Total			Season Total	
Category	**Salvage**	**Loss**	**Trend**	**Salvage**	**Loss**
Wild	4	2.7	↘	13	38
Hatchery	0	0	→	0	0
Total	**4**	**2.7**		**13**	**38**

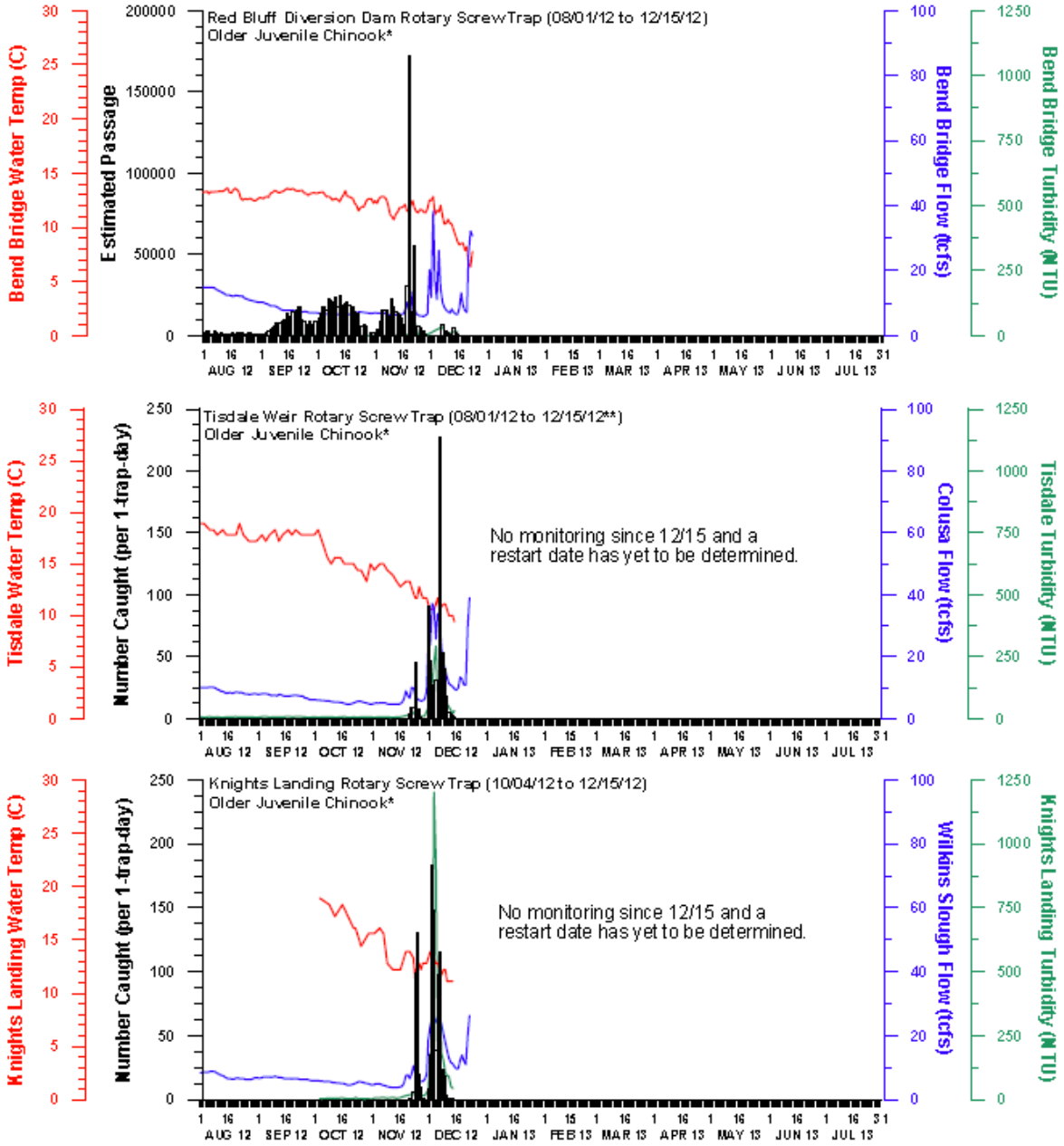
State Water Project loss = salvage x 4.33; Central Valley Project loss = salvage x 0.68

NMFS' RPA Action IV.3 Triggered Last Week: The objective of RPA Action IV.3 (page 80 in the 2009 RPA with 2011 amendments) is to reduce the loss of winter run, spring run, steelhead, and green sturgeon by reducing exports when large numbers of juvenile Chinook salmon are migrating into the upper Delta region, at risk of entrainment into the central and south Delta, and then to the export pumps in the following weeks. RPA Action IV.3 was triggered on 12/18/12 by the expanded loss of 123.02 older juvenile Chinook at the CVP/SWP and NMFS was notified on 12/19/12. This is greater than the second-stage trigger to reduce exports to a combined 4,000 cfs; however, because the delta smelt RPA action was controlling with OMR flows set at -2,000 cfs, no additional actions were deemed necessary to protect salmon.

It was noted by Fujimura (DFG) that the loss of wild older juvenile Chinook salmon at the CVP and SWP facilities responded quickly to the reduced export rates, dropping from the high of 123 fish on 12/18 to zero after 12/20/12. There was also a concurrent drop in the number of clipped older juvenile–sized Chinook salmon observed at the two facilities.

NOTE: Below are graphs provided by DWR through 12/24/12 for older juvenile salmon and steelhead in the Sacramento River and at the Delta fish facilities. For additional graphs, please visit the DWR website at:
http://www.water.ca.gov/swp/operationscontrol/calfed/calfedmonitoring.cfm.

NUMBER OF OLDER JUVENILE CHINOOK MEASURED IN THE SACRAMENTO RIVER



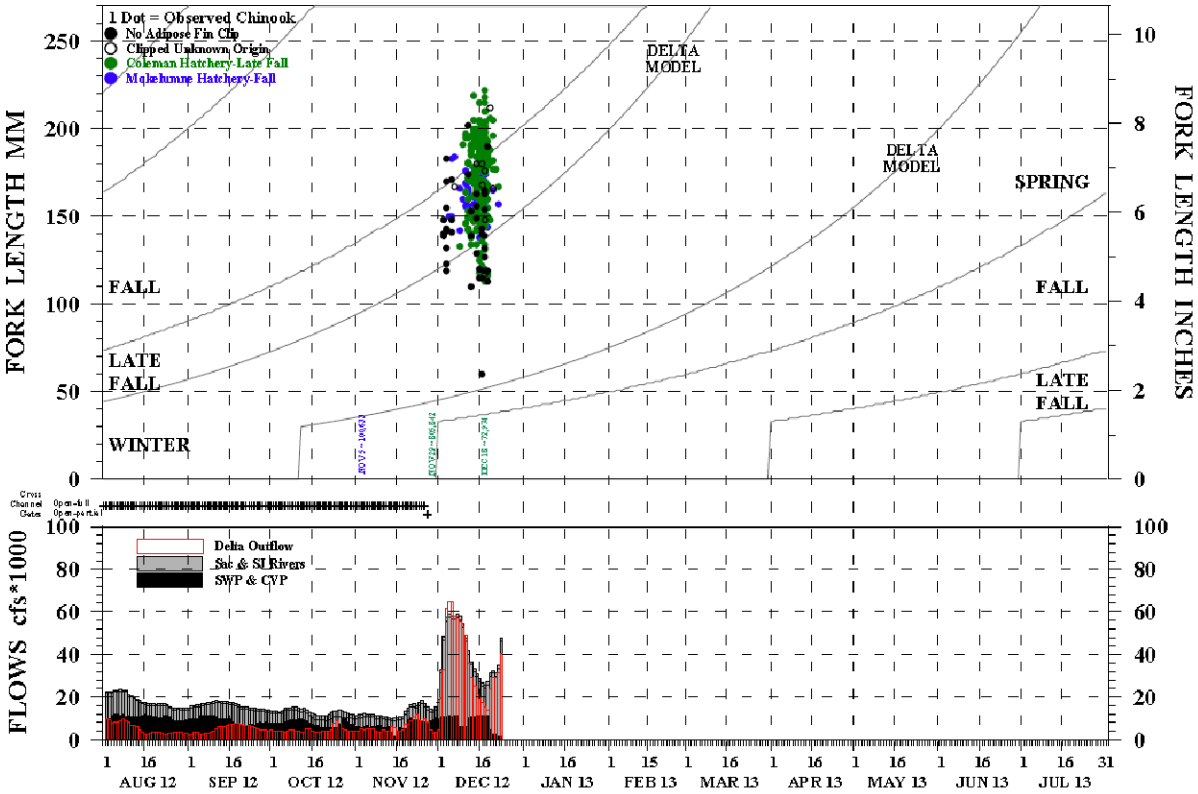
DWR-DES 24 DEC 2012

Preliminary data from DFG, FWS, and CDEC; subject to revision.

*Older juvenile Chinook defined as any Chinook above the minimum winter run length-at-date criteria and below the maximum size included in the length-at-date criteria (Frank Fisher model).

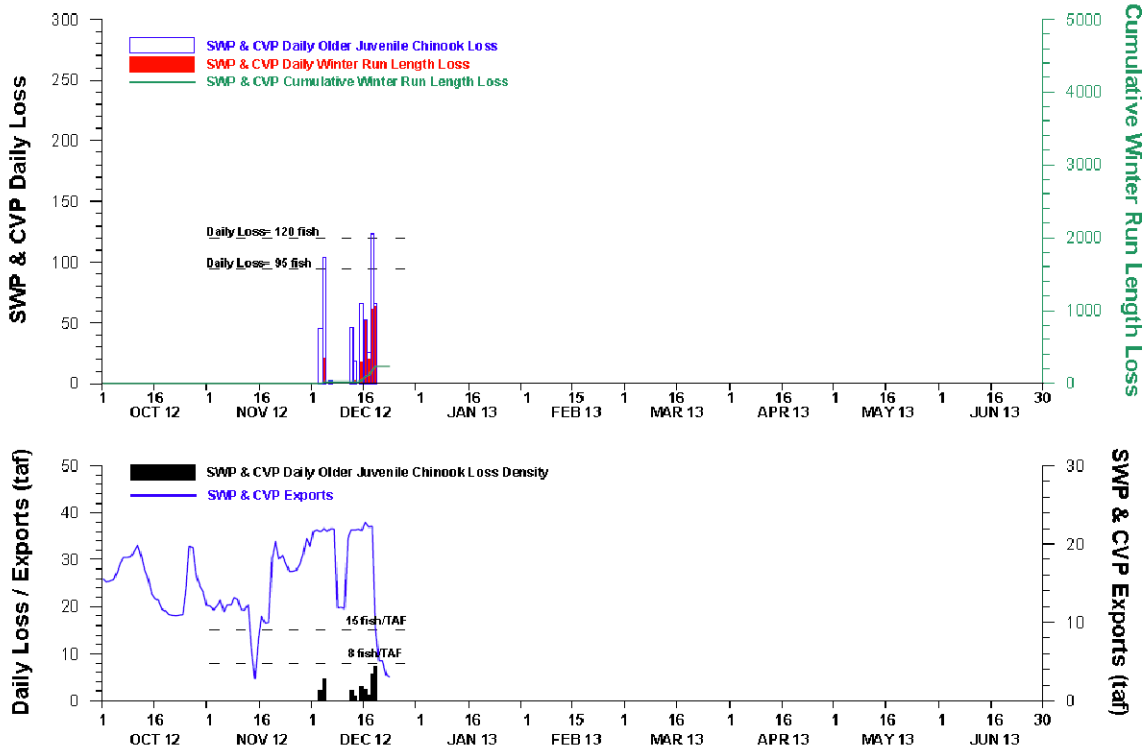
** Tisdale Weir: One older juvenile caught on 9/14 and 43 older juveniles caught on 11/25. However, CPUE was not calculated due to problems with the cone clickers. As a result, data are not presented on the graph.

OBSERVED CHINOOK SALVAGE AT THE SWP & CVP DELTA FISH FACILITIES 08/01/2012 THROUGH 12/23/2012



DWR-DES 24 DEC 2012
Preliminary data from DFG; subject to revision.
*Chinook outside of the length-at-date criteria (Delta model) are not reported.

NON-CLIPPED WINTER RUN & OLDER JUVENILE CHINOOK LOSS AT THE DELTA FISH FACILITIES 01 OCT 2012 THROUGH 23 DEC 2012



DWR-DES 24 DEC 2012
Preliminary data from DFG; subject to revision
*Older juvenile Chinook defined as any Chinook above the minimum winter run length-at-date criteria and below the maximum size included in the length-at-date criteria (Delta model).

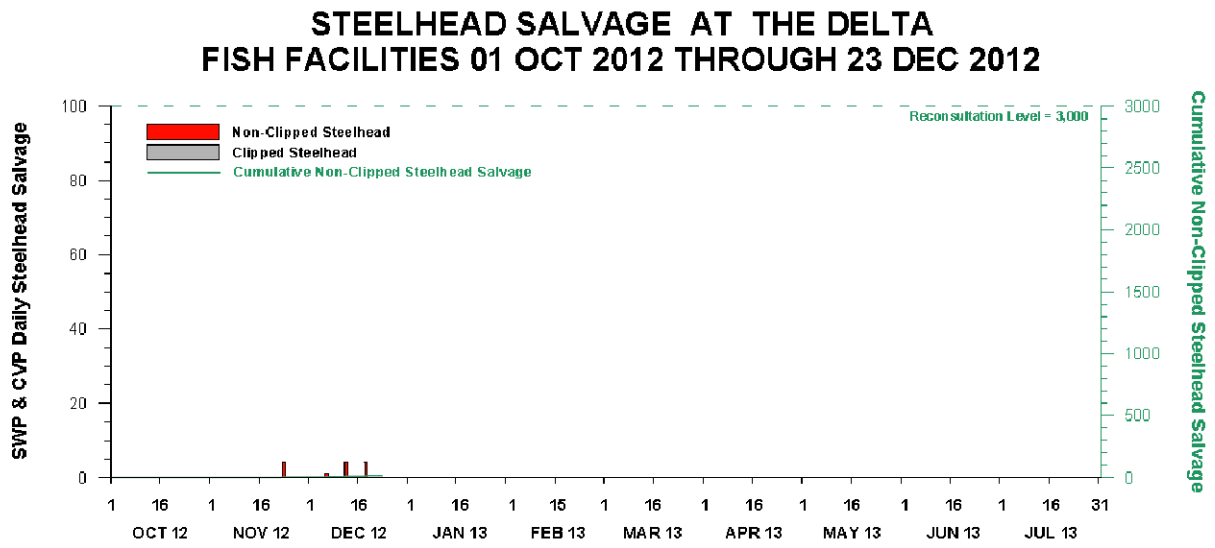
HATCHERY (ADIPOSE-FIN CLIPPED) CHINOOK SALMON LOSS AT THE SWP & CVP DELTA FISH FACILITIES, 2012/2013

Release Date	CWT Race	Hatchery	Release Site	Release Type	Confirmed Loss	Number Released[1]	Total Entering Delta	% Loss[2]	First Concern Level	Second Concern Level	Date of First Loss	Date of Last Loss
11/5/2012	-	Mokelumne River Hatchery	Mokelumne River	**	535.45	100,635	n/a	0.532	n/a	n/a	12/9/2012	12/23/2012
11/29/2012	LF	Coleman NFH	Battle Creek	Production	3771.85	805,842	n/a	0.468	n/a	n/a	12/9/2012	12/23/2012
12/10/2012	LF	Coleman NFH	Battle Creek	Spring Surrogate	0.00	72,874	n/a	0.000	0.5%	1.0%	n/a	n/a

Facility	Unknown CWT Loss[3]	Unread CWT Loss[4]	Unknown Hatchery Loss[5]
SWP	54.91	45.92	73.10
CVP	5.20	0.00	0.00

SWP CWTs read from 10/1/2012 through 12/23/2012.
CVP CWTs read from 10/1/2012 through 12/23/2012
[1]Number released with adipose fin clipped and a CWT
[2]LF & F% Loss = [Confirmed Loss/Number Released]*100; W% Loss = [Confirmed Loss/Total Entering Delta]*100
[3]Adipose fin clipped Chinook was observed during salvage, but race could not be verified since CWT was lost/damaged during processing, did not contain a CWT, or the adipose fin clipped Chinook was accidentally released and not collected for processing.
[4]Adipose fin clipped Chinook was collected during salvage and has not been processed yet.
[5]CWT has been read, but hatchery release information not yet available.
** Information not yet available

DWR-DES Revised 12/24/2012
Preliminary data from DFG, DWR, FWS, and Reclamation; subject to revision.



Operations (12/26/12)

SWP		CVP	
Exports (cfs)			
Clifton Court Forebay	1,500	Jones Pumping Plant	Holding at 1,500 cfs until Friday (12/28 – 7:00 a.m.) then increasing to 1,600 cfs
Reservoir Releases (cfs)			
Feather - Oroville	1,750	Nimbus	10,000 cfs holding depending on forecast and additional precipitation
		Sacramento - Keswick	4,500 holding
		Stanislaus - Goodwin	275
Reservoir Storage (in TAF, % of capacity)			
San Luis (SWP)	410 (38.6)	San Luis (CVP)	657 (68)
Oroville	2,466	Shasta	3,251
New Melones	1,580	Folsom	591
Delta Operations			
DCC	Closed	Sacramento River at Freeport (cfs)	65,311
Outflow Index (cfs)	87,400	San Joaquin River (cfs) at Vernalis	3,507
Total Delta Inflow (cfs)	83,327	OMR (daily) (cfs)	-345
Water Temperature (°F)		OMR 5 day (cfs)	-1,253
X2 (km)	59	OMR 14 day (cfs)	-5,341
E/I (%)	6.2 (14-d avg.)		

Water Quality: Turbidity was increasing in the Delta from both the Sacramento and San Joaquin rivers from precipitation events in the Central Valley over the past few days. Water temperatures are generally declining throughout the Delta. Flows at Vernalis have risen from the last several storms, increasing turbidity entering the South Delta.

DOSS advice to WOMT and NMFS: None.

Next Meeting: Next DOSS meeting is Wednesday 1/2/13 at 9:00 a.m. The draft winter-run juvenile production estimate will be discussed.